IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Inventorship .... Dean
Applicant.. Microsoft Corporation
Group Art Unit 2151
Examiner ....Bullock, Jr. L.
Attorney's Docket No. MS1-796US
Title: Interprocess Communication Mechanism For Heterogeneous Computer
        Processes

APPEAL BRIEF

To: Board of Patent Appeals and Interferences
        Washington, D.C. 20231

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Pursuant to 37 C.F.R. §1.192, Applicant hereby submits an appeal brief for

application 08/897,217. A Notice of Appeal was filed April 10, 2001. Accordingly,

Applicant appeals to the Board of Patent Appeals and Interferences seeking review

of the Examiner's rejections.

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(1)   Real Party in Interest

The real party in interest is the Microsoft Corporation, the assignee of all right and title to the subject invention.

(2)   Related Appeals and Interferences

Appellant is not aware of any other appeals or interferences which will directly affect, be directly affected by, or otherwise have a bearing on the Board's decision to this pending appeal.

(3)   Status of Claims

Claims 1-15 and 22 stand rejected and are pending in this Application. Claims 16-21 have been canceled and no claims have been allowed. Claims 1, 3-4, 6, 8, 11, 13, 15, and 22 have been previously amended and are set forth in the Appendix of Appealed Claims on page 12 with the remaining claims as originally presented.

All of the pending claims are subject to this appeal and stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,956,483 to Grate et al. (hereinafter, "Grate"), as set forth in a Final Office Action dated October 12, 2000.

(4)   Status of Amendments

A final rejection was issued on October 12, 2000 whereupon Applicant responded to address the Examiner's rationale for the rejections of claims 1-15 and 22. Subsequently, an Advisory Action was issued on January 30, 2001 dismissing the traversal without the response being entered. The Office indicated in the

Advisory Action issued on January 30, 2001 that the proposed amendments in Applicant's response would be entered upon filing of the Notice of Appeal and this Appeal Brief. No other amendments have been filed subsequent to the Examiner's final rejection or ensuing Advisory Action.

(5)   Summary of Invention

The invention pertains to an interprocess communication mechanism in which applets can receive and respond to processing requests of other computer processes, and which can send processing requests to such other computer processes without requiring modification of applet viewers. Additionally, computer system security is preserved with interprocess communication because an applet is denied direct access to computer system resources. (*Specification* p. 5, lines 24-25).

Interprocess communication between a computer process and an applet executing within an applet viewer is achieved by encoding remote procedure calling requests as requests for documents in a known, standard document request format. (*Specification* p. 5, lines 1-5; p. 7, lines 3-5). A portion of the name space for documents which can be retrieved in HTTP (hypertext transfer protocol) is reserved for remote procedure call requests. An applet encodes a remote procedure call as a request to receive a document in the portion of the name space reserved for remote procedure calls and sends the request in the form of a URL (universal resource locator) to a remote procedure call process. (*Specification* p. 7, lines 5-8).

The remote procedure call process includes an HTTP server that receives the URL, determines whether the URL specifies a document in the name space

portions reserved for remote procedure calls, parses the remote procedure call from the URL, and services the remote procedure call. In addition, the remote procedure call process places any results produced by servicing the remote procedure call into a document which is then sent to the applet. (*Specification* p. 5, lines 10-14).

(6)   Issue

Whether claims 1-15 and 22 are properly rejected under 35 U.S.C. §103(a) as being unpatentable over Grate?

(7)   Grouping of Claims

Claims 1-15 and 22 stand rejected under 35 U.S.C. §103(a). This claim grouping, however, contains claims that are separately patentable which do not stand or fall with the group. The claim groupings are as follows:

A.   Claims 1-3, 5-8, 10-13, 15, and 22 stand or fall together.

B.   Claims 4, 9, and 14 stand or fall together.

(8)   Argument

Claims 1-15 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Grate. Applicant respectfully traverses this rejection.

Grate, which is also owned by the Applicant, describes a method for embedding client-side function calls within HTML (hypertext markup language) content such that a user can initiate an embedded function call by clicking on a corresponding button or link while viewing a document with a standard Web browser (*Grate* col. 3, lines 13-22). Web function calling protocols are embodied

within client and server software components which provide for the exchange of information between Web users and online merchants over the Internet (*Grate* col. 3, lines 37-42).

Grate describes "embedding client-side function calls within Web documents" and "allowing end users to selectively invoke such function calls while viewing the documents with a standard Web browser" (*Grate* col. 1, lines 48-53). To the contrary, Applicant claims receiving a request for a document from an applet, where the request specifies a function, the execution of which performs a task that is unrelated to retrieval of any document specified in the request (*see* claim 1, for example).

Grate does not teach or suggest the combination of elements recited in the claims of the subject application for the following reasons.

(1) **Grate does not teach an applet executing within a computer system, or receiving a request for a document from the applet.**

Claim 1 is representative of claim grouping *A* (claims 1-3, 5-8, 10-13, 15, and 22). Claim 1 recites in part:

A method for serving remote procedure calls from an applet which executes within an applet viewer which in turn executes in a computer system that is serving said remote procedure calls, the method comprising:

receiving from the applet which executes in the same computer system that serves said remote procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;

Grate does not teach an applet *which executes* in a computer system, as recited in claim 1. Grate describes that an HTML document 160 is displayed to the consumer by the Web browser 130 (*Grate* col. 8, line 66 to col. 9, line 2; Fig. 1). The Office suggests that the HTML document is an applet (*Office Action* dated October 12, 2000, hereinafter "*Office Action*", p. 3). Applicant disagrees because the HTML document does not execute on a computer system. Rather, the HTML document is displayed by the Web browser.

Grate also describes that an embedded function call is displayed to the user as a user-selectable button 162 on the HTML document (*Grate* col. 9, lines 5-6; Fig. 1). The Office suggests that the user-selectable button can also be considered an applet (*Office Action* p. 6). Applicant disagrees that the user-selectable button of Grate is an applet. Grate describes that the user-selectable button represents an embedded function call, and that the Web browser 130 generates the function call request message when a consumer selects the user-selectable button (*Grate* col. 9, lines 13-15; Fig. 1). Applicant claims that an applet executes in a computer system and that a request for a document is received from the applet. The user-selectable button described in Grate does not execute *and* generate a function call.

The Office has suggested that the HTML document and/or the user-selectable button in Grate is an applet. However, the HTML document does not execute on a computer system, nor does the user-selectable button both execute and generate a function call.

(2)   Grate does not teach receiving a request for a document from the applet according to a document retrieval protocol.

Grate does not teach receiving from the applet "a request for a document according to a document retrieval protocol", as recited in claim 1. Grate describes that when a consumer selects the user-selectable button 162 on the HTML document 160, the Web browser 130 generates an HTTP POST message which serves as a function call request message (*Grate* col. 9, lines 13-15; Fig. 1). The Office suggests that the HTTP POST message is a request for a document (*Office Action* p. 3). Applicant disagrees because Grate describes that an HTTP POST message is used to request that a Web server accept information from a Web client, and that the information may be in the form of a message to be posted to a newsgroup, or a database submission (*Grate* col. 5, lines 52-57). Thus, an HTTP POST message is used to *send* information, such as a message, from a Web client to a Web server. An HTTP POST message is not a *"request* for a document", as recited in claim 1.

Furthermore, Grate describes that the HTTP POST message is in a Web function calling protocol (WFCP) form that allows client-to-server function calls to be embedded within HTML documents (*Grate* col. 3, lines 23-31). To the contrary, Applicant claims a "request for a document according to a document retrieval protocol", as recited in claim 1. Applicant describes encoding remote procedure calling requests as requests for documents in a known, standard document request format. (*Specification* p. 5, lines 1-5; p. 7, lines 3-5). Grate, however, supports client-to-server function calls with a function calling protocol.

(3) **Grate does not teach that a request for a document specifies a function which performs a task unrelated to retrieval of any document specified in the request.**

Claim 1 also recites:

> determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer and which includes one or more computer instructions, execution of which performs a task which is unrelated to retrieval of any document specified in the request; and

Grate does not teach the combination of elements recited in claim 1. Grate does not teach both a request for a document *and* "determining that the request specifies a function..., execution of which performs a task which is unrelated to retrieval of any document specified in the request", as recited in claim 1.

The Office states that Applicant argues Grate does not teach or suggest a task unrelated to retrieval of any document (*Office Action* p. 6). This is incorrect. Applicant traverses the rejection in that Grate does not teach the *combination* of receiving a request for a document *and* determining that the request specifies a function which performs a task unrelated to retrieval of any document specified in the request.

The Office points out that Grate provides examples of functionality in Table 2 (col. 8). However, these examples of functionality are methods in the form of COM objects 146 that are called by function calling code 132A (*Grate* col. 7, lines 64-66). The function calling code calls the methods with function calls in response to WFCP (Web function calling protocol) function call request messages received from the Web browser 130 (*Grate* col. 7, lines 48-54). Grate

clearly describes calling the methods with function calls. Grate says nothing about calling or requesting a function with a request for a document having an encoded remote procedure calling request, as claimed by the Applicant.

Accordingly, for the above reasons, claim grouping *A* (claims 1-3, 5-8, 10-13, 15, and 22) is allowable over Grate because the reference does not teach or suggest the combination of elements recited in the claims.

(4) Grate does not teach including function result data into a document and sending the document to the applet.

Claim 4 is representative of claim grouping *B* (claims 4, 9, and 14). Claim 4 is dependent upon claim 3, which is dependent upon claim 1. Claims 3 and 4 recite:

(claim 3) returning to the applet result data produced by execution of the function.

(claim 4) forming a document which includes the data; and

sending the document to the applet.

The additional element defined in claim 4 is that result data produced by execution of the function (of claim 1) is included into a document and the document is sent to the applet. Grate does not teach "forming a document which includes the data", and "sending the document to the applet", as recited in claim 4.

The Office suggests that it would be obvious that results can be sent back to the applet in the form of a document with HTTP (*Office Action* p. 4). Applicant disagrees that it would be obvious that results *of a function*, execution of which

performs a task which is unrelated to retrieval of any document specified in the request, would send data in the form of a document to the applet, as recited in the combination of claims 1, 3 and 4. Furthermore, Grate does not teach that result data produced by execution of the function is included into a document and sent to the applet. Accordingly, claim grouping *B* (claims 4, 9, and 14), is allowable over Grate.

Conclusion

The Office's basis and supporting rationale for the §103 rejection is not supported by the express teachings of the Grate reference. Applicant respectfully requests that the §103 rejection be overturned and that pending claims 1-15 and 22 be allowed to issue.

Respectfully Submitted,

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(9) Appendix of Appealed Claims

1. A method for serving remote procedure calls from an applet which executes within an applet viewer which in turn executes in a computer system that is serving said remote procedure calls, the method comprising:

receiving from the applet which executes in the same computer system that serves said remote procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;

determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer and which includes one or more computer instructions, execution of which performs a task which is unrelated to retrieval of any document specified in the request; and

executing the function in the same computer system that is executing said applet and applet viewer to thereby cause execution of the one or more computer instructions in response to receipt of the request.

2. The method of Claim 1 wherein the step of determining comprises:

determining that the request includes a document specification which is in a portion of a name space reserved for function requests.

3. The method of Claim 1 further comprising:

returning to the applet result data produced by execution of the function.

4. The method of Claim 3 wherein the step of returning comprises:

forming a document which includes the data; and

sending the document to the applet.

5. The method of Claim 1 wherein the document retrieval protocol is HTTP.

6. A computer readable medium useful in association with a computer system which includes a processor and a memory, the computer readable medium including computer instructions which are configured to cause the computer to serve remote procedure calls from an applet, which executes within an applet viewer which in turn executes in the computer system that is serving said remote procedure calls, by performing the steps of:

receiving from the applet which executes in the same computer system that serves said procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;

determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer and which includes one or more selected computer instructions, execution of which performs a task which is unrelated to retrieval of any document specified in the request; and

executing the function in the same computer system that is executing said applet and applet viewer to thereby cause execution of the one or more selected computer instructions in response to receipt of the request.

7.   The computer readable medium of Claim 6 wherein the step of determining comprises:

determining that the request includes a document specification which is in a portion of a name space reserved for function requests.

8.   The computer readable medium of Claim 6 where the computer instructions are further configured to cause the computer to serve remote procedure calls by further performing the step of:

returning to the applet result data produced by execution of the function.

9.   The computer readable medium of Claim 8 wherein the step of returning comprises:

forming a document which includes the result data; and

sending the document to the applet.

10.   The computer readable medium of Claim 6 wherein the document retrieval protocol is HTTP.

11. A computer system comprising:

a processor;

a memory operatively coupled to the processor; and

a computer process which executes in the processor from the memory and which, when executed, serves remote procedure calls from an applet which executes within an applet viewer which in turn executes in the processor from the memory concurrently and independently from the computer process, wherein the computer process serves remote procedure calls by performing the steps of:

receiving from the applet which executes in the same computer system that serves remote procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;

determining that the request specifies a function which is defined within the computer process and which includes one or more computer instructions, execution of which performs a task which is unrelated to retrieval of any document specified in the request; and

executing the function in the same computer system that is executing said applet and applet viewer to thereby cause execution of the one or more computer instructions in response to receipt of the request.

12. The computer system of Claim 11 wherein the step of determining comprises:

determining that the request includes a document specification which is in a portion of a name space reserved for function requests.

13. The computer system of Claim 11 where the computer process serves remote procedure calls by further performing the step of:

returning to the applet result data produced by execution of the function.

14. The computer system of Claim 13 wherein the step of returning comprises:

forming a document which includes the result data; and

sending the document to the applet.

15. The computer system of Claim 11 wherein the document retrieval protocol is HTTP.

22. The method of claim 1, wherein the function further comprises a Remote Procedure Call.